OCEANIC EXCITATION OF POLAR MOTION DURING 1992-1994

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Two global ocean general circulation models have been used to compute the angular momentum of nontidal oceanic current and sea level height variations: (1) the Princeton Modular Ocean Model (MOM) having 22 vertical layers and a rigid lid, and (2) the Miami Isopycnic-Coordinate Ocean Model (MICOM) having 11 vertical layers with a mixed layer and a free surface. Both models were run on the same 2 degree longitude by 1 degree latitude grid spanning 80 S to 80 N latitude. Following a 10-year spin-up with climatological air-sea fluxes, both models were forced during 1992-1994 with daily wind and heat flux from the NCEP operational analysis and sea surface salinity restoring to Levitus climatology. After correcting for the effects of mass non-conservation in these models, they are shown to predict similar effects on polar motion excitation of sea level height variations, but the effect of currents predicted by MOM is much larger than that predicted by MICOM.